

What is claimed is:

1. A self-closing drawer slide comprising:

a cabinet member adapted to be stationarily mounted to the inside of a cabinet;

a drawer member adapted to be mounted to a drawer, said drawer member and said cabinet member both having bearing surfaces;

5 a plurality of bearings interfitted between said cabinet member and said drawer member and in contact with said bearing surfaces, said bearings adapted to allow said drawer member to move between a closed position and an extended position, said drawer member having all of its bearing surfaces nested within the cabinet member;

10 a generally planar surface having a channel defined therein, said channel extending in a direction parallel to the direction of movement of the drawer member, said channel having a front end and a back end and a substantially uniform width between said front and back ends, said front end being positioned nearer than said back end to an opening in the cabinet out of which the drawer member exits when in the extended position;

15 a slider positioned in said channel and adapted to selectively engage the drawer member,

a spring connected to said slider and adapted to exert a pulling force that tends to pull said slider toward the back end of said channel; and

20 a holding notch defined in said planar surface adjacent the front end of said channel, said holding notch adapted to releasably hold the slider near the front end of the channel, said slider adapted to engage a surface on the drawer member that causes said slider to move into the holding notch when the drawer member is moved to the extended position and to move out of the holding notch when the drawer member is moved to the closed position, said spring causing said slider to move to the back end of the channel when the slider is moved out of the holding notch and to thereby move the drawer member to the closed position.

2. The drawer slide of Claim 1 further including an intermediate member positioned between said drawer and said cabinet members and adapted to move between an extended position and a closed position, said intermediate member including a plurality of bearing surfaces in contact with said bearings wherein all of said bearing surfaces of said intermediate member are nested within said cabinet member.

3. The drawer slide of Claim 1, wherein said planar surface is made of plastic.

4. The drawer slide of Claim 1, wherein said spring is generally cylindrically shaped and defines an interior space that is free of any structures.

5. The drawer slide of Claim 4, wherein said slider includes a body with a tab projecting therefrom to selectively engage the drawer member.

6. The drawer slide of Claim 5, wherein said body further includes a flange, said flange depending from said body in an opposite direction than said tab, and said spring being connected to said flange.

7. The drawer slide in Claim 6, wherein said body includes an upper portion, an intermediate portion, and a bottom portion, said upper portion and said lower portion being wider than said width of said channel, and said intermediate portion being narrower than said channel wherein said upper and lower portions guide said slider along said planar surface in  
5 said channel.

8. The drawer slide in Claim 7, wherein said flange extends from said bottom portion.

9. The drawer slide in Claim 6, wherein said flange is offset from said tab.

10. The drawer slide of Claim 1, wherein said slider includes a portion above said planar surface extending laterally with respect to said channel to limit movement of said slider into said planar surface and thereby provide a guide for said slider.

11. The drawer slide of Claim 10, wherein said slider includes a portion below said planar surface extending laterally with respect to said channel to limit movement of said slider from said planar surface to thereby form a second guide wherein said planar surface is captured between said guides when said slider is positioned in said channel.

12. The drawer slide of Claim 1, wherein said slider has a top portion and a bottom, said top portion and bottom portion being wider than said width of said channel and separated by an intermediate portion having a width narrower than said width of said channel such that

5      said intermediate portion can travel in said channel in the direction of movement of the  
drawer member.

13.      The drawer slide of Claim 12, wherein said planar surface further includes an  
enlarged opening in communication with said channel, said enlarged opening having a width  
greater than the width of at least one of said top portion and bottom portion of said slider  
whereby said slider can be inserted into the enlarged opening to allow said intermediate  
5      portion to fit into said channel.

14.      The drawer slide of Claim 13, wherein said enlarged opening is positioned at the back  
end of said channel.

15.      The drawer slide of Claim 14, wherein said channel comprises a first channel, said  
enlarged opening being separated from said first channel by an intermediate channel that  
intersects said first channel at an angle.

16.      The drawer slide of Claim 12, wherein said spring comprises a coil spring defining an  
interior spring that is free of any structures.

17.      The drawer slide of Claim 1, further comprising at least one ramp to raise said drawer  
member when said drawer member is moved to said closed position to align said surface with  
said slider.

18.      The drawer slide according to Claim 17, wherein said slider includes a projecting tab,  
said tab having a base, and said ramp raising said surface at or above said base to thereby  
align said surface with said slider.

19.      The drawer slide according to Claim 18, further comprising a flange, said flange  
projecting above said generally planar surface and having a sloped surface, said slope surface  
forming said ramp.

20.      The drawer slide according to Claim 19, wherein said flange comprises a pair of  
flanges, said flanges forming a pair of said ramps.

21. A self-closing mechanism for a drawer slide mountable within a cabinet and movable between a closed position and an extended position, said self-closing mechanism adapted to automatically move said drawer slide completely to the closed position when the drawer slide has been moved nearly to the closed position, said self-closing mechanism comprising:

5 a planar surface;

a channel defined in said planar surface and extending in a direction parallel to the direction of movement of the drawer slide, said channel having a front end and a back end and a substantially uniform width between said front and back ends, said front end being positioned nearer than said back end to an opening in the cabinet out of which the drawer  
10 slide exits when in the extended position;

a slider positioned in said channel and adapted to selectively engage the drawer slide, said slider having a top portion and a bottom, said top portion and bottom portion being wider than said channel width and separated by an intermediate portion having a width narrower than said channel width such that said intermediate portion can travel in said channel in the  
15 direction of movement of the drawer slide;

a spring connected to said slider and adapted to bias said slider toward the back end of said channel; and

a holding notch defined in said planar surface adjacent the front end of said channel, said holding notch adapted to releasably hold the slider near the front end of the channel, said  
20 slider adapted to engage a surface on the drawer slide that causes said slider to move into the holding notch when the drawer slide is moved to the extended position and to move out of the holding notch when the drawer slide is moved to the closed position, said spring causing said slider to move to the back end of the channel when the slider is moved out of the holding notch and to thereby move the drawer slide to the closed position.

22. The mechanism of Claim 21, wherein said spring includes no contact with any metal structures.

23. The mechanism of Claim 22, wherein said spring is generally cylindrically shaped and defines an interior space that is free of any structures.

24. The mechanism of Claim 21, further comprising a body, said body including said planar surface and an end wall, said spring mounted between said end wall and said slider.
25. The mechanism of Claim 21, wherein said planar surface is made of plastic.
26. The mechanism of Claim 21, wherein said spring is generally cylindrically shaped and defines an interior space that is free of any structures.
27. The mechanism of Claim 21, wherein said slider includes a tab, said tab adapted to selectively engage the drawer slide or the drawer member.
28. The mechanism of Claim 27, wherein said tab has a sloped top.
29. The mechanism of Claim 27, wherein said tab comprises a round cylindrical member.
30. The mechanism of Claim 27, wherein said body further includes a flange, said flange depending from said body in an opposite direction than said tab, and said spring being connected to said flange.
31. The mechanism in Claim 30, wherein said flange extends from said bottom portion.
32. The mechanism in Claim 30, wherein said upper portion comprises a generally planar member.
33. The mechanism of Claim 21, wherein said intermediate portion comprises a pair of spaced apart members extending between said upper and bottom portions.
34. The mechanism of Claim 33, wherein said spaced apart members comprise cylindrical members.
35. The mechanism of Claim 33, wherein said spaced apart members comprise round cylindrical members.

36. The mechanism of Claim 21, wherein said planar surface further includes an enlarged opening in communication with said channel, said enlarged opening having a width greater than the width of at least one of said top portion and bottom portion of said slider whereby said slider can be inserted into the enlarged opening to allow said intermediate portion to fit into said channel.

37. The mechanism of Claim 36, wherein said enlarged opening is positioned at the back end of said channel.

38. The mechanism of Claim 37, wherein said channel comprises a first channel, said enlarged opening being separated from said first channel by an intermediate channel that intersects said first channel at an angle.

39. A self-retracting slide comprising:

a first fixed rail;

a sliding rail slidable with respect to said fixed rail and adapted to move between a retracted position in said fixed rail and an extended position wherein at least a portion of said sliding rail is extended from said fixed rail, said sliding rail having a web;

a body having a channel defined therein, said channel extending in a direction parallel to the direction of movement of the sliding rail, said channel having a front end and a back end and a substantially uniform width between said front and back ends, said front end being positioned nearer than said back end to an end of said fixed rail from which said sliding rail extends;

a slider positioned in said channel and adapted to selectively engage said web of the sliding rail, said slider having a portion above said body surface extending laterally with respect to said channel to limit movement of said slider into said body through said channel and thereby provide a guide for said slider along said channel;

a spring connected to said slider and adapted to exert a pulling force that tends to pull said slider toward the back end of said channel; and

a holding notch defined in said body adjacent the front end of said channel, said holding notch adapted to releasably hold the slider near the front end of the channel, said slider adapted to engage a surface of said web that causes said slider to move into the holding notch when the drawer member is moved to the extended position and to move out of the

holding notch when the drawer member is moved to the closed position, said spring causing said slider to move to the back end of the channel when the slider is moved out of the holding notch and to thereby move the sliding member to the retracted position.

40. The self-retracting slide of Claim 39, wherein said slider includes a portion below said body extending laterally with respect to said channel to limit movement of said slider from said body to thereby form a second guide wherein a portion of said body is captured between said guides when said slider is positioned in said channel.

41. The self-retracting slide of Claim 39, wherein said body comprises a plastic body.

42. The self-retracting slide of Claim 39, wherein said spring is generally cylindrically shaped and defines an interior space that is free of any structures.

43. The self-retracting slide of Claim 42, wherein said slider includes a tab projecting to selectively engage the web of the sliding rail.

44. The self-retracting slide of Claim 43, wherein said body further includes a flange, said flange depending from said body, and said spring being connected to said flange.

45. The self-retracting slide of Claim 44, wherein said body further includes outwardly extending tabs for engaging said fixed rail to thereby mount said body to said fixed rail.

46. The self-retracting slide of Claim 45, wherein said fixed rail includes mounting openings, said tabs engaging said fixed rail at said mounting openings.

47. The self-retracting slide of Claim 43, wherein said body includes at least one ramp, said ramp raising said web of said sliding rail to align with said tab of said slider.

48. The self-retracting slide of Claim 47, wherein said body includes a pair of flanges, said flanges forming a pair of said ramps.

49. The self-retracting slide of Claim 48, wherein said flanges extend from an end of said body toward said sliding rail.

50. The self-retracting slide of Claim 49, wherein said web includes an engagement notch, said engagement notch engaging said tab of said slider; and said flanges straddling said engagement notch to thereby raise said sliding rail before said tab enters said engagement notch.